

For some specimens from Ireland containing *Saccamina fusuliniformis*, McCoy, sp., I am indebted to Miss M. K. Andrews, of Belfast, who has with great kindness furnished me with numerous samples of limestones and shales from various parts of Ireland, in order to further the study of their Microzoa. The Irish *Saccamineæ* thus lately obtained are from the Lower Limestone shales of Castle Espie, Co. Down.

XXXIV.—*On a Collection of Heterocera made in the Transvaal.* By W. L. DISTANT.

Noctuidæ.

IN dealing with this family of Transvaal moths a special fact is at once recognized—apparently also applicable to the Pyralidæ—which is, that the South-African Noctuids cannot be studied alone. Entomologists who may have had good reasons to conclude that in other groups of insects there is little community between the Ethiopian and Oriental faunas will find that the rule does not apply to these moths. Not only genera, but very many species, are common to the two regions, while others are of a more or less world-wide distribution and have an extended range in such unlikely areas as North and South America, Australia, &c. It will thus be seen that caution is necessary in describing South-African Noctuidæ, for many of these inhabitants of grassy plains have as wide a distribution as their natural surroundings. They are truly wanderers on the face of the earth, and many of these moderately small and obscure moths, which neither by habit nor coloration invite notice, must possess an antiquity commensurate to the requirements for their vast migration.

Of the 108 species here enumerated or described, the following 9 species have a

More or less universal distribution.

Heliothis armigera, Hübn.
Agrotis plecta, Linn.
Spodoptera mauritia, Boisd.
Prodenia littoralis, Boisd.
Caradrina exigua, Hübn.

Hyblæa puera, Cram.
Cosmophila erosa, Hübn.
Plusia eriosoma, Doubl.
Calpe capucina, Esp.

Of these 5 at least have been recorded from the American continent or adjacent islands.

No fewer than 29 species are found in, some first described from,

The Oriental Region.

Chariclea marginalis, Walk.	Polydesma umbricola, Boisd.
Agrotis biconica, Koll.	Ophiusa algira, Linn.
— segetis, Schiff.	— melicerte, Dru.
— putris, Linn.	— tirrhaca, Cram.
Euplexia niveiplaga, Walk.	Grammodes geometrica, Fabr.
Caradrina quadripunctata, Fabr.	— stolidia, Fabr.
Leucania Loreyi, Dup.	Plusia circumflexa, Linn.
Acrapex leucophlebia, Hamps.	— ni, Hübn.
Tarache tropica, Guen.	— orichalcea, Fabr.
— upsilon, Walk.	— limbirena, Guen.
Xanthoptera opella, Swinh.	Plusiodonta coelonota, Koll.
Acontia Grællsii, Feisth.	Hydrillodes lentalis, Guen.
— malvæ, Esp.	Hypena abyssinialis, Guen.
Eublemma divisa, Moore.	— masuralis, Guen.
Cosmophila mesogona, Walk.	

Of these at least 12 are also found in Europe and several in Australia.

I have followed, both in genera and species, the synthetic arrangement of Sir George Hampson, to whom I am indebted for much assistance in the preparation of this paper. Dr. Aurivillius has also kindly compared most of the species I have here described as new with Wallengren's types of South-African moths in the Stockholm Museum. Those he described from the Transvaal, as I have already stated (*ante*, p. 47, note), are somewhat unavailable, there being no entomologist in charge at the museum in which they are deposited.

Subfam. *TRIFINÆ.*

<i>Heliothis armigera</i> , Hübn. Pretoria, Johannesburg.
— <i>scutiligera</i> , Guen. Johannesburg.
<i>Chariclea marginalis</i> , Walk. Pretoria.
<i>Agrotis biconica</i> , Koll. Pretoria, Johannesburg.
— <i>segetis</i> , Schiff. Barberton (<i>Dr. P. Rendall</i>), Pretoria, Johannesburg.
— <i>trux</i> , Hübn., var. Pretoria.
— <i>cinctithorax</i> , Walk. Pretoria, Johannesburg.
— <i>intendens</i> , Walk. Pretoria.
— <i>plecta</i> , Linn. Pretoria, Johannesburg.
— <i>effracta</i> , sp. n. Pretoria.
— <i>transjecta</i> , sp. n. Pretoria.
— <i>putris</i> , Linn. Johannesburg.
— <i>mucosa</i> , Hübn. Barberton (<i>Dr. P. Rendall</i>).
<i>Hadena breviscula</i> , Walk. (?). Pretoria.
— <i>renisigna</i> , Walk. Pretoria.
— <i>Bulgeri</i> , F. & R. Pretoria, Johannesburg.
<i>Euplexia niveiplaga</i> , Walk. Pretoria.
<i>Cuculia extricata</i> , Walk. Pretoria.

- Spodoptera mauritia*, Boisd. Pretoria.
Toxocampa plumbea, sp. n. Pretoria.
Hemipachycera Yerberii, Butl. Johannesburg.
Prodenia littoralis, Boisd. Barberton (*Dr. P. Rendall*), Pretoria.
Caradrina quadripunctata, Fabr. Pretoria.
 — *exigua*, Hübn. Pretoria.
Leucania plana, Walk. Johannesburg.
 — *Loreyi*, Dup. Waterberg (*Wilde*).
 — *amens*, Guen. Pretoria.
 — *torrentium*, Guen. Pretoria.
 — *apparata*, Wallengr. Pretoria, Johannesburg.
 — *substituta*, Wallengr. Pretoria, Johannesburg.
Acrapex leucophlebia, Hamps. Pretoria.

Agrotis effracta, sp. n.

Head, thorax, and antennæ dark reddish brown; abdomen above and body beneath paler.

Anterior wings dark reddish brown, much paler at apical angle, below which the outer area is generally much darker; orbicular and reniform spots, which are well defined and have their margins blackish, connected by a narrow black fascia; this fascia also extends from the reniform spot to outer margin, where it is preceded above by a short black streak. Posterior wings pale ochreous white. Anterior wings beneath brownish ochraceous, darkest to a little beyond cell; posterior wings beneath with faint indications of a transverse discal series of small spots.

Exp. wings 27–31 millim.

Hab. Transvaal, Pretoria (*Distant*).

Specimens are in the British Museum from Malvern and Durban in Natal.

Agrotis transjecta, sp. n.

Head and pronotum ochraceous, with black markings; mesonotum very dark fuscous; abdomen above and body beneath pale ochraceous; legs more or less shaded with fuscous.

Anterior wings shining ochraceous, with purplish and fuscous reflections; costal margin narrowly fuscous, with a larger spot near apex; a large dark fuscous cellular streak enclosing both orbicular and reniform spots, which are pupillate and margined with pale ochraceous; beneath cell a slender dark fuscous basal streak; beyond cell the wing is crossed by a curved series of small fuscous spots, and a similar series of spots on outer margin; between these two series of spots is a small fuscous patch beyond cell and a similar one near outer angle. Posterior wings pale creamy white. An-

terior wings beneath paler than above; posterior wings beneath with a terminal fuscous cellular spot, costal speckles and apical suffusion, and a faint submarginal series of spots.

Exp. wings 26-27 millim.

Hab. Transvaal, Pretoria (*Distant*).

A specimen from Madagascar is in the British Museum.

Toxocampa plumbea, sp. n.

Head and anterior margin of thorax black, remainder of thorax, abdomen, and body beneath greyish white, speckled with black.

Anterior wings greyish brown, with a roseate reflection; reniform spot slightly prominent, outer margin broadly dark fuscous, costal and inner margins very narrowly and outer marginal fringe silvery grey; some small obscure dark costal marginal spots. Posterior wings plumbeous, the fringe silvery grey and with similarly coloured hairs on anal area. Wings beneath pale plumbeous, the discal area of anterior wings and the inner area of posterior wings silvery grey.

Exp. wings 32-35 millim.

Hab. Transvaal, Pretoria (*Distant*).

Specimens from Annshaw, Eastern Cape Colony, are in the British Museum.

Subfam. ACONTINÆ.

Diptera verbenata, sp. n. Barberton (*Dr. P. Rendall*).

— *autumnalis*, sp. n. Barberton (*Harrison*), Pretoria.

Megalodes pienaarum, sp. n. Pienaars River.

Tarache caffraria, Cran. Pretoria, Johannesburg.

— *dispar*, Walk. Pretoria, Johannesburg.

— *upsilon*, Walk. Pretoria.

— *margaritata*, Dru. Johannesburg.

— *natalis*, Hübn. Pretoria, Warm Baths, Waterberg.

— *admota*, F. & R. Johannesburg.

— *tropica*, Guen. Pienaars River.

— *guttifera*, F. & R. Pienaars River.

— *torrefacta*, sp. n. Pretoria.

— *athiops*, sp. n. Pretoria.

Perigea dolorosa, Walk. Pretoria.

Microphysa hypotenaria, Wallengr. Barberton (*Dr. P. Rendall*), Pretoria.

Xanthoptera opella, Swinh. Pretoria.

Acontia Grallsii, Feisth. Barberton (*Dr. P. Rendall*).

— *mulva*, Esper. Pretoria.

Metachrostis dubitans, Walk. Barberton (*Dr. P. Rendall*), Pretoria, Johannesburg.

— *densa*, Walk. Pretoria, Johannesburg.

— *varia*, Walk. Pretoria.

— *vultuosa*, sp. n. Barberton (*Dr. P. Rendall*), Pretoria.

— *accincta*, sp. n. Pretoria.

Eublemma divisa, Moore. Pretoria.

— *apicata*, sp. n. Pretoria.

— *pretoriae*, sp. n. Pretoria.

Dipthera verbenata, sp. n.

Head and thorax very pale olive-green, mottled with grey and fuscous; antennæ brownish ochraceous; abdomen and body beneath pale greyish ochraceous; eyes black; anterior and intermediate tarsi strongly, posterior tarsi faintly, broadly annulated with fuscous.

Anterior wings very pale olivaceous green, speckled with greyish, costal margin alternately greyish and black; orbicular spot obscure, broadly black at edges, reniform spot faint and pale; three transverse and much waved black fasciæ, the second outwardly, the third inwardly margined with greyish white; first fascia close to base, second crossing cell, third between cell and outer margin, which is narrowly black, but prominently toothed between the veins. Posterior wings pale ochreous white, thickly speckled with fuscous on outer half, and with a narrow fuscous marginal border. Wings beneath pale ochreous white, thickly speckled with fuscous on costal and outer areas.

Exp. wings 32–36 millim.

Hab. Transvaal, Barberton (*Dr. Percy Rendall*).

Two specimens. In the second the black transverse fasciæ to the anterior wings are broader and more suffused.

Dipthera autumnalis, sp. n.

Head and thorax pale olivaceous, speckled with grey and black; abdomen and body beneath pale greyish ochraceous; antennæ fuscous; eyes black.

Anterior wings very pale olivaceous, costal margin alternately greyish and black; crossed by five much waved narrow black fasciæ, between which the olivaceous coloration is darker and more speckled with black, first fascia a short distance from base, second and third near end of cell, fourth and fifth between end of cell and outer margin; fringe with furcate black fasciæ; at apex there is a distinct black suffusion. Posterior wings pale creamy white, the outer margin narrowly fuscous. Wings beneath creamy white; anterior wings much shaded with fuscous; posterior wings similarly shaded on costal and apical margins.

Exp. wings 30–33 millim.

Hab. Transvaal, Barberton (*Harrison*), Pretoria (*Distant*).

Two specimens, one from each locality. In the Pretorian

example the whole area between the second and fifth fasciæ of the anterior wings is suffused with black, which colour again connects the first and second fasciæ on the inner margin.

Megalodes pienaar, sp. n.

Head and thorax creamy white, with a few fuscous and black markings; apex of head, antennæ, abdomen, and body beneath brownish ochraceous; tibiæ annulated with fuscous; eyes black.

Anterior wings creamy white, cellular area extending to costa nearly altogether suffused with fuscous brown; a narrow transverse black fascia near base and another much waved beyond cell, the outer margin also narrowly black; the outermost fascia is broadly black and directed inwardly beneath cell, where it is outwardly margined by fuscous brown, and a plumbeous suffusion; at apex beyond the fascia is a brownish ochraceous costal spot, followed by a plumbeous one. Posterior wings creamy white, with a faint ochraceous tinge; a somewhat obscure brownish discal spot and transverse fascia; the extreme margin also fuscous brown. Wings beneath greyish white; anterior wings nearly wholly suffused with fuscous, excepting inner area beneath cell and apex; posterior wings as above.

Exp. wings 23-25 millim.

Hab. Transvaal, Pienaars River (*Distant*), Pretoria (*Distant*).

Tarache torrefacta, sp. n.

Body, legs, and antennæ ochraceous; body paler beneath; eyes black.

Anterior wings ochraceous, suffused with brownish ochraceous, especially at basal, inner, and apical areas; at middle of inner area and at apex is a dark purplish suffusion; beneath apex and gradually widening to outer angle the outer margin is bright warm ochraceous. Posterior wings pale ochraceous, somewhat thickly speckled with brownish ochraceous, darkest at apex and outer margin. Wings beneath generally as above, but anterior wings without the two purplish suffusions and posterior wings with a dark discal spot.

Exp. wings 22-25 millim.

Hab. Transvaal, Pretoria (*Distant*).

Tarache athiops, sp. n.

Head and antennæ brownish ochraceous, eyes black;

thorax and abdomen above pale fuscous; body beneath and legs pale fuscous; the tarsi ochraceous.

Anterior wings dark fuscous, with a broad transverse ochreous-white fascia near base, a similarly coloured costal spot beyond end of cell, and the outer area suffused with the same tint, especially at apex and outer angle; a small fuscous mark is in the costal pale spot, and there are a series of small dark spots on extreme outer margin. Posterior wings plumbeous, the fringe ochraceous. Wings plumbeous, the pale markings to anterior wings scarcely visible beneath.

Exp. wings 18 millim.

Hab. Transvaal, Pretoria (*Distant*).

Metachrostis vultuosa, sp. n.

Body above chocolate-brown, margins of the abdominal segments paler; body beneath and legs pale ochraceous; abdomen brownish ochraceous.

Anterior wings chocolate-brown, costal margin spotted with golden yellow, which is most prominent at apex, and is there the commencement of two very obscure submarginal yellowish waved fasciæ; reniform spot large and margined with dull ochraceous; beyond this spot the wing is crossed by a strongly waved and bent transverse fascia; near base are some other transverse linear fasciæ (scarcely discernible in some specimens) and an oblique series of obscure yellow spots extending from costa across cell. Posterior wings paler and brighter chocolate-brown, with a marginal series of small golden-yellow spots, of which the largest are at anal angle and apex. Anterior wings beneath chocolate-brown, the cellular area, a short transverse bar beyond it (in some specimens continued as a fascia to inner margin), a submarginal series of spots, and about basal half of inner marginal area golden yellow. Posterior wings beneath golden yellow, crossed by a discal and a submarginal fascia, chocolate-brown; the posterior margin of the same colour and connected with the submarginal fascia, so as to enclose a series of small yellow spots.

Exp. wings 25 millim.

Hab. Transvaal, Pretoria (*Distant*), Barberton (*Dr. P. Rendall*).

Specimens from Estcourt, Natal, are in the British Museum.

Metachrostis accincta, sp. n.

Body and legs pale brownish ochraceous.

Anterior wings pale brownish ochraceous; crossing the wing and almost enclosing the reniform spot is a broad

chocolate-brown fascia, closely followed by a narrow pale and much bent fascia, which joins the broad fascia on inner margin and is chocolate on costal margin; outer marginal area reddish ochraceous; a series of minute dark spots on outer margin, preceded by a pale waved linear fascia; fringe very pale brown. Posterior wings pale golden yellow, the costal area broadly pale chocolate-brown. Wings beneath much paler than above.

Exp. wings 18–20 millim.

Hab. Transvaal, Pretoria (*Distant*).

Eublemma apicata, sp. n.

Head, thorax, and base of abdomen pale ochraceous brown, lateral lines, meeting in front, to thorax and apical two thirds of abdomen purplish brown; body beneath and legs pale ochraceous brown.

Anterior wings pale reddish brown; an obscure darker fascia (broadest at costal area) crossing wing beyond cell; apex and a spot margining fascia near inner angle creamy white; a submarginal series of minute dark spots. Posterior wings dark plumbeous, the fringe creamy white. Wings beneath brownish ochraceous, both with broad marginal dark fasciæ, apex of anterior wings narrowly white.

Exp. wings 22–23 millim.

Hab. Transvaal, Pretoria (*Distant*).

Eublemma pretoriae, sp. n.

Body and legs pale dull ochraceous.

Anterior wings dull ochraceous; a short transverse brown fascia, strongly bent at reniform spot and more or less bifid at costal area; a large dark brown apical spot more or less continued as a submarginal fascia, but not reaching inner angle; two longitudinal dark brown lines, one traversing cell, the other more oblique beneath cell, both nearly reaching outer margin. Posterior wings very pale golden yellow, extreme outer margin very narrowly darker. Wings beneath with the markings more obscure.

Exp. wings 20–23 millim.

Hab. Transvaal, Pretoria (*Distant*).

Specimens are in the British Museum from Estcourt, Natal.

Subfam. *SARROTHRIPINÆ*.

Hyblea puera, Cram. Pretoria.

Subfam. *EUTELIINÆ*.

Eutela Bowkeri, F. & R. Barberton (*Harrison*).

Subfam. *STICTOPTERINÆ*.

Audea ochreipennis, Butl. Pretoria.

Subfam. *GONOPTERINÆ*.

Cosmophila mesogona, Walk. Pretoria, Johannesburg.

— *involuta*, Walk. Pretoria.

— *erosa*, Hübn. Pretoria.

Subfam. *QUADRIFINÆ*.

Matopo typica, gen. et sp. n. Pretoria (*T. Donovan*).

Hypocala subsatura, Guen. Pretoria.

Bolina revulsa, Wallengr. Pretoria, Johannesburg.

Cyrtogramma latona, Cram. Barberton (*Dr. P. Rendall*), Pretoria, Johannesburg.

Nyctipao macrops, Linn. Barberton (*Harrison*).

Polydesma umbricola, Boisd. Johannesburg, Zoutpansberg.

— *semiusta*, sp. n. Pretoria.

— *balearia*, sp. n. Warm Baths, Waterberg.

— *dissimilis*, sp. n. Waterberg (*Wilde*).

Sphingomorpha monterionis, Butl. Barberton (*Dr. P. Rendall*), Pretoria, Johannesburg.

Ophiusa croceipennis, Walk. Barberton (*Dr. P. Rendall*), Zoutpansberg.

— *pretoria*, Dist. Pretoria.

— *melicerte*, Dru. Waterberg (*Wilde*), Johannesburg.

— *algira*, Linn. Barberton (*Dr. P. Rendall*), Pretoria.

— *salita*, sp. n. Pretoria, Johannesburg.

— *tirrhaca*, Cram. Waterberg (*Wilde*), Pretoria.

— *xylina*, sp. n. Pretoria.

— *echo*, Walk. Lydenburg District (*Zutrzenka*).

Delgamma zonaria, sp. n. Barberton (*Dr. P. Rendall*), Pretoria.

Euniana recussa, sp. n. Pretoria.

Plecoptera immitis, Walk. (?) Warm Baths, Waterberg.

Remigia mutuarua, Walk. Warm Baths, Waterberg.

Cerocala vermiculosa, H.-S. Pretoria.

Grammodes geometrica, Fabr. Zoutpansberg (*Kässner*), Pretoria, Johannesburg.

— *stolida*, Fabr. Zoutpansberg (*Kässner*), Pretoria, Johannesburg.

Trigonodes obstans, Walk. Barberton (*Harrison*), Zoutpansberg (*Kässner*).

Thermesia anezza, sp. n. Johannesburg (*Creyoe*).

Spirama capensis, H.-S. Barberton (*Dr. P. Rendall*), Lydenburg District (*Zutrzenka*).

Calliodes rivuligera, Butl. Lydenburg District (*Zutrzenka*).

Calpe apicalis, Walk. Pretoria.

— *capucina*, Esp. Waterberg (*Wilde*), Pretoria.

Plusia eriosoma, Doubl. Pretoria.

— *circumflexa*, Linn. Pretoria.

Plusia ni, Hübn. Pretoria.

— *orichalcea*, Fabr. Pretoria, Johannesburg.

— *limbirena*, Guen. Pretoria.

— *exquisita*, F. & R. Pretoria, Johannesburg.

Plusiodonta caelonota, Koll. Barberton (*Harrison*).

Rhanidophora phaedonia, Stoll. Barberton (*Dr. P. Rendall*), Rustenburg.

MATOPO, gen. nov.

Palpi extended a little in front of head, the second joint clothed with long hairs; antennæ pectinate; frons prominently produced; thorax hairy; abdomen hairy on segmental margins; tibiæ moderately hairy.

Allied to the Oriental genus *Trisula*, Moore, from which it differs by the pectinate antennæ and prominent frons.

Matopo typica, sp. n.

Body and wings both above and beneath very pale ochraceous, dusted with silvery white. Anterior wings above with the following chocolate-brown markings:—a small patch beyond and connected with reniform spot, below which extends an oblique series of irregular suffusions situated between the veins, and terminating on inner margin near base in two short streaks; a marginal series of streaks between the veins, which are small and macular near apex and longer towards outer angle.

Exp. wings 37 millim.

Hab. Transvaal, Pretoria (*Donovan*).

Polydesma semiusta, sp. n.

Body and legs pale brownish ochraceous; legs speckled with brownish.

Wings pale ochraceous, thickly speckled with reddish brown; both wings crossed by a discal, much waved, narrow, reddish-brown fascia, commencing on costal margin of anterior wings about midway between end of cell and outer margin, bent inwardly towards end of cell, and then extending more directly across both wings, terminating on anal margin of posterior wings; a similar less waved fascia crossing anterior wings near base through about centre of cell; the outer marginal area of both wings rather more thickly speckled with reddish brown. Wings beneath much paler than above, the fasciæ almost obsolete.

Exp. wings 45 millim.

Hab. Transvaal, Pretoria (*Donovan*).

Polydesma balnearia, sp. n.

Head and thorax greyish, with black shadings (*thorax rubbed in specimen described*); abdomen above pale brownish ochraceous; body beneath and legs greyish white, legs more or less streaked and spotted with fuscous.

Anterior wings pale ochraceous, with narrow reddish-brown striæ; base to about one third of cell more or less purplish black, the outer edge clearly defined and containing two short darker striæ, commencing at costa and fusing about halfway across wing; beyond cell a much waved transverse purplish fascia, bent inwardly beneath cell, its inner margin purplish black; beyond this fascia the colour is somewhat pale violaceous, with a waved blackish line on outer margin and an apical dark purplish patch with a pale centre. Posterior wings pale greyish ochraceous, with a waved blackish outer marginal line and with the veins more or less minutely speckled. Wings beneath pale ochraceous; apical area of anterior wings and apical margin of posterior wings obscure purplish.

Exp. wings 34 millim.

Hab. Transvaal, Warm Baths, Waterberg (*Distant*).

Polydesma dissimilis, sp. n.

Head and thorax fuscous grey; abdomen and body beneath somewhat silvery grey.

Anterior wings fuscous grey, with silvery reflection, crossed by an obscure and exceedingly waved darker line, commencing at about end of cell and deflected and continued beneath cell to inner margin near base; on outer margin a series of dark rays between the veins. Posterior wings silvery greyish white. Wings beneath obscure silvery greyish white, both wings with a somewhat obsolete narrow brownish submarginal fascia.

Exp. wings 34 millim.

Hab. Transvaal, Waterberg (*Wilde*).

Somewhat diverse from the usual facies of the genus.

Ophiusa salita, sp. n.

Head and thorax reddish ochraceous, the last more or less plumbeous on its posterior area; abdomen and body beneath pale greyish; legs with brownish suffusions.

Anterior wings reddish brown, thickly irrorated with greyish striæ; both orbicular and reniform spots prominent, oval, and with pale margins; wing crossed by three narrow

castaneous fasciæ—the first outwardly oblique, crossing base of cell, the second beyond cell, sinuate and bent inwardly, the third between second and outer margin, waved, strongly and outwardly bidentate at about centre; beyond the outer fascia the marginal area is pale violaceous, with a marginal series of small black spots on the veins. Posterior wings very pale plumbeous, the outer marginal areas darker. Wings beneath pale brownish ochraceous, the outer margins darker.

Exp. wings 40 millim.

Hab. Transvaal, Pretoria (*Distant*), Johannesburg (*Cregoe*).

Ophiusa xyliua, sp. n.

Head and thorax pale reddish ochraceous; abdomen and body beneath ochraceous.

Anterior wings very pale brownish or reddish ochraceous, crossed by two narrow castaneous fasciæ—the first outwardly, the second inwardly greyish, the first crossing cell and directed outwardly, the second beyond cell directed inwardly, both almost meeting on inner margin; reniform spot large, prominent, centrally constricted, pale purplish, with darker margin; between the second fascia and outer margin a sinuate series of small dark spots and a subapical purplish-black patch; a waved dark line at outer margin. Posterior wings ochraceous, the outer area broadly pale fuscous, the fringe ochraceous. Wings beneath ochraceous; anterior wings with a broad black outer submarginal fascia; posterior wings with the apical area speckled with fuscous.

Exp. wings 55 millim.

Hab. Transvaal, Pretoria (*Distant*).

Allied to *O. lunaris*, Schiff. Specimens from Natal are in the British Museum.

Delgamma zonaria, sp. n.

Body pale greyish brown; legs and palpi fuscous brown; eyes black.

Anterior wings greyish brown, crossed by two narrow transverse fasciæ—the first slightly curved, crossing at about anterior half of cell, the second slightly oblique between end of cell and outer margin, inwardly broadly margined with purplish brown and outwardly with pale greyish, the outer margin of wing also broadly purplish brown; reniform spot dark and subprominent. Posterior wings generally as anterior, but without the basal fascia. Wings beneath greyish ochraceous; the cellular area of anterior wings and the outer margins of both wings somewhat darker.

Exp. wings 31–36 millim.

Hab. Transvaal, Pretoria (*Distant*), Barberton (*Dr. P. Rendall*).

Baniana recussa, sp. n.

Body pale greyish brown; anterior area of thorax reddish brown; legs speckled with brown.

Anterior wings pale greyish brown, crossed by two narrow fasciæ—the first waved and subobsolete near base, the second commencing on costal margin a little beyond end of cell, slightly sinuate and bent inwardly and upwardly at about centre of wing, and then recurved to inner margin; the area beyond this fascia is dark purplish brown, containing a large pale brown apical spot and sometimes a smaller similar spot on outer margin (*on one wing only in type*); reniform spot dark purplish brown. Posterior wings pale greyish brown, the posterior area darker in hue. Wings beneath pale reddish brown, speckled with greyish or ochraceous; both wings crossed by a discal fascia; a dark spot closing cell in posterior wing.

Exp. wings 26 millim.

Hab. Transvaal, Pretoria (*Distant*).

Allied to *B. semilugens*, Walk.

Thermesia annexa, sp. n.

Head and thorax pale greyish brown; legs pale greyish, speckled with brown.

Wings pale greyish, with darker speckles; anterior wings with the reniform spot purplish brown, beneath which a narrow waved fascia extends to inner margin; a subobsolete narrow transverse fascia near base; a somewhat straight narrow pale fascia a little before outer margin, outwardly margined with purplish brown, which is dentately undulate; extreme outer margin with a series of small dark spots. Posterior wings with a dark submarginal fascia, beyond which the colour is also darker. Wings beneath brownish ochraceous, the outer margins broadly pale fuscous.

Exp. wings 31 millim.

Hab. Transvaal, Johannesburg (*Cregoe*).

Subfam. DELTOIDINÆ.

Simplicia inflexalis, Guen. (?). Pretoria.

Hydrilodes lentalis, Guen. Pretoria.

Epizeuxis ethiops, Dist. Pretoria.

Rhynchina casa, sp. n. Pretoria, Waterberg.

Hyppena abyssinialis, Guen. Pretoria, Johannesburg.

— *masurialis*, Guen. Waterberg (*Wilde*).

Rhynchina cæsa, sp. n.

Head and thorax grey, speckled with brownish; abdomen, body beneath, and legs pale greyish ochraceous.

Anterior wings greyish, speckled with pale brown, especially on costal and inner marginal areas; a waved narrow fascia crosses wing at about two thirds from base, beyond which the colour is much darker—purplish brown and violaceous—excepting near base, where it is grey; the dark hue has the appearance of a broad oblique fascia; a waved dark line on outer margin; reniform spot distinct. Posterior wings pale ochraceous, somewhat darker at posterior margins. Wings beneath pale greyish ochraceous, somewhat pale brownish at apices.

Exp. wings 23–29 millim.

Hab. Transvaal, Pretoria (*Distant*), Waterberg (*Wilde*).

XXXV.—*The Islands and Coral-reefs of the Fiji Group.*

By ALEXANDER AGASSIZ*.

. . . . On our arrival at Suva we found the 'Yaralla,' a twin-screw steamer of about 500 tons, chartered from the Australasian United Steam Navigation Company, awaiting us. We have now been about six weeks cruising among the islands, and have found the boat admirably suited for our purpose. During the past summer I had shipped to Australia our outfit for dredging, sounding, and for deep-sea towing, as well as all the materials necessary for preserving our collections. This equipment we found safely stored in the 'Yaralla.' I had also brought with me deep-sea tow-nets of the various patterns used by the Prince of Monaco, by Dr. Giesbrecht of the Naples Zoological Station, and by Hensen on the 'National' Expedition, in order to compare their efficiency with the Tanner deep-sea self-closing net in use on the 'Albatross' and which I had adopted on my various expeditions. Unfortunately our time here is so limited and the conditions for towing at great depths among so many intercepting islands are such that the results likely to be obtained seemed to make it unadvisable to devote the time necessary for such a comparison. Although nothing was done to test the different deep-sea self-closing towing-nets, yet we have made at various points along

* From the 'American Journal of Science,' February 1898, pp. 113–123: being extracts from a letter of Alexander Agassiz, dated Suva, Fiji Islands, December 15th, 1897, addressed to E. S. Dana.